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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,851

11/28/2005

Aloys Wobben

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500 7590 06/26/2008  
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EXAMINER

FORTUNA, ANA M

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

06/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,851	<b>Applicant(s)</b> WOBBEN, ALOYS	
	<b>Examiner</b> Ana M. Fortuna	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/12/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: claim 4 is directed to a membrane system provided with pistons in series to increase water pressure at the membrane inlet. The system includes a first piston pump arranged to provide pressure to the feed water; a second piston arrangement, e .g. reservoir having a piston; the piston reservoir includes conventional feed and concentrate chambers, ad a "pressure reservoir", e.g. bladder, connected to a pressure chamber (503). The position of the pressure chamber in the system is lacking and so its function in the pumping arrangement with respect to the piston or piston in the piston reservoir (or piston housing).
2. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: exerting pressure on the piston by means of the pressure chamber, which is connected to the pressure reservoir (20).
3. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1 the term "reservoir" in line 20 is redundant, because the reservoir is provided in line 18; the claim is also unclear as to

whether the second reservoir refers to element 20 in figure 2. In cline 20 and 22 the term "I has" should be "has". In line 23, the term "the outlet" should be "an outlet". In claim 4, the position of the "pressure chamber" with respect to the piston and inlet /outlet chambers is indefinite and its connection to the membrane is also incomplete. The apparatus is incomplete as to how the added "pressure chamber structure" relates to the apparatus ability of increasing pressure to the feed water to the membrane. In claim 4, the term "reservoir with a piston is redundant. Additional dependent claims are also rejected as depending on the rejected claims 1 and 4.

***Allowable Subject Matter***

4. Claims 1-7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
5. The following is an examiner's statement of reasons for allowance: combining membrane separation with the double piston arrangement is recognized by Applicant to be old, see also patent US 7,189,325 to the same applicant which priority goes back to 11/2000. The combination of feed pistons to increase the pressure of reverse osmosis membranes, and the provision of pistons with three chambers is also known by Wobben US 6,841,076 (see pressure chamber 23). Providing a pressure reservoir at the end of the piston and connected to a pressure reservoir (20) to receive a fluid from the pressurized reservoir" is not suggested in the prior art of record. Combining more than one piston arrangement to increase feed water in sequence of pressurization stages using pistons is known in the prior art as evidence in 5,531,887, 4434056; 4187,173; the later provides a third chamber in communication with the piston reservoir, e.g for a

Art Unit: 1797

filtration stage. Patent 4,124,488 further provides an accumulator in communication to a piston chamber, its connection to a "third" "pressure chamber" in the piston reservoir is not suggested.

A proposed amendment was discussed with Eric Ringer on 6/17/08, which did not result in an agreement.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All the references discussed above are cited in form 892..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M. Fortuna whose telephone number is (571) 272-1141. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ana M Fortuna  
Primary Examiner  
Art Unit 1797

/Ana M Fortuna/  
Primary Examiner, Art Unit 1797